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ORIGINAL ARTICLES

WHAT ORTHODONTIA AND ORTHODONTISTS HAVE TO OFFER TO OUR OWN, AS WELL AS TO ALLIED, SCIENCE*

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"OBSERVE, COMPARE, REFLECT, RECORD"

WHAT I have to offer the American Society of Orthodontists today I know is far different in character than my two preceding papers; nevertheless, there are many factors previously described that again make their appearance, but this time in an entirely different form. In describing cases I have taken those found in one orthodontic practice that have not only proved instructive in orthodontia, but have become valuable material for allied sciences. At the same time this paper will introduce a new procedure, heretofore for some unknown reason overlooked in this association; nevertheless the like is considered a yearly contribution and a practice in many scientific societies, and I trust in the future will be the regular procedure at our sessions.

Orthodontia became a recognized science only after it outgrew the care and strength of the parent "Dentistry." Since leaving what was the adopted home, the child now has developed in stature beyond that of its ancestors and seeks its support, nourishment, and vitality in those branches of science that permit her further growth and life. Orthodontia wants and will take all that such sciences as anthropology, biology, embryology, comparative anatomy, psychology, etc., can give. Orthodontia today is a study of many and varied scientific subjects, and in order to accomplish our mission and purpose we

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have asked those in the above sciences to cooperate with us; we have brought their men to our meetings to give their knowledge in papers on any number of subjects and they in turn have asked for like assistance and cooperation from us, but so far that which we pledged ourselves many times to do, remains undone.

My purpose, therefore, is to present a few cases that I find have interested associate coworkers, and at the same time will, I trust, add additional knowledge to orthodontia. All have undoubtedly similar, in fact, perhaps more interesting cases in your respective practices; I trust for the sake of some men who desire this information that you will in the future record them.

To the anthropologist, biologist, as well as comparative anatomist, supernumerary teeth as found in our orthodontic collections seem to concern them the most; although I find each branch of science looks upon this phenomenon of nature from an entirely different viewpoint, they still all come to the same conclusion. Therefore let me at the outset consider a few of these cases. The biologist considers this deviation a question or a problem in heredity or nonheredity, while the anthropologist and comparative anatomist not only of heredity but one of reversion or atavism.

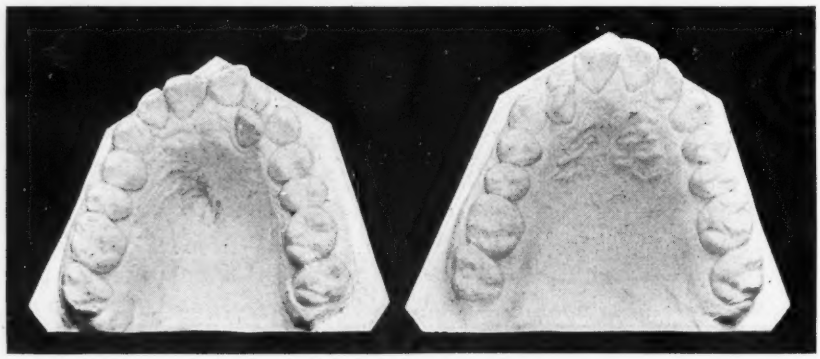


Fig. 1. Fig. 2.

Fig. 1.—Occlusal view showing supernumerary left in place of the permanent lateral. The permanent lateral erupting within the dental arch, (brother) age 13.

Fig. 2.—Similar condition found in another member of the family, but in this case erupting on the right side, (sister) age 15.

SUPERNUMERARY TEETH

The first case that will be reported is a type I know from experience interests all of our scientific brethren. Figs. 1 and 2 are from brother and sister, age thirteen and fifteen respectively, each having a supernumerary lateral placed almost identically within the dental arch, although on opposite sides, causing the permanent laterals to erupt on the palatal surface. The fact immediately enters our mind that here is a condition that is analogous in two members of one family; but of greater importance to us as orthodontists, is a question that I do not believe has been previously considered. Why do supernumeraries erupt first? That this they do in nearly all cases if we examine our models, is certain, otherwise the permanent teeth would be found in their regular and not in some foreign position. Finding as we do in these two particular cases

Fig. 3.—Extracted supernumerary teeth, the one on the left Fig. 1, on the right Fig. 2.

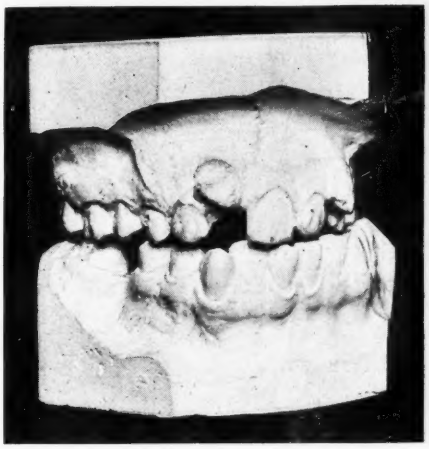


Fig. 4.—A case showing a supernumerary right upper incisor.

Fig. 5.—The impacted central and canine in the case shown in Fig. 4, after the supernumerary had been extracted the bony wall was removed.

Fig. 6.—Front and side view, supernumerary tooth, illustrates twist of the crown on the root, and shape of tooth.

Fig. 7-*A*.—The impacted tooth restored as nearly as possible to its proper position and its relation to the supernumerary.

Fig. 7-*B*.—Photograph of previous case showing the position of the impacted central and canine.

conditions that are so similar, the question of heredity enters into immediate consideration. This is a problem we as orthodontists can not solve, but we all know how often parents inquire and desire an answer.

Supernumeraries that are similar to these are numerous, but all are not as easy to be determined from the permanent tooth as in this case. Here radiograms showed that the tooth within the dental arch had the shorter root, while the crowns proved to be smaller in diameter as well as being more irregular in shape. This can be seen in Fig. 3, a photograph of the two extracted teeth.

The next case, another containing a supernumerary tooth, might merely represent an addition in number to our friends; to us it presents a more complex problem and is shown in Fig. 4. Here again we find that this tooth has erupted first, causing the peculiar impaction of the upper right central incisors and cuspid as seen in Fig. 5. Here again we are forced to ask the question: Why has this tooth assumed its peculiar twist and shape, as well as preventing the above described teeth from erupting? (Fig. 6.)

Fig. 8.

Fig. 8.—Illustrates a perfect alignment of teeth in the lower arch, although five anterior incisors are present.

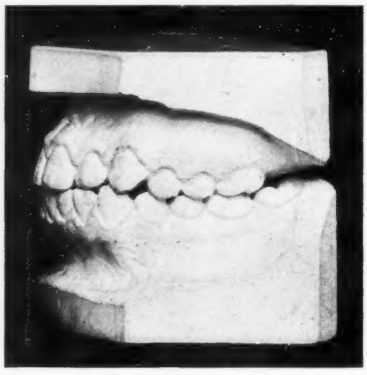


Fig. 9.

Fig. 9.—Upper and lower dental arches in occlusion. Although there are five lower incisors, nature has compensated in the upper by increasing the diameter of the teeth.

The answer to this question is more easily seen by referring to Fig. 7 which shows the impacted tooth, as nearly as possible, restored to its former position. All can readily see where the pressure has been applied as well as the effect it has had on the formation of the root of the supernumerary tooth. The deciduous tooth being in its normal position while the crown of this tooth was forming has undoubtedly caused it to assume this form. Has the position of the supernumerary between the deciduous and the germs, later the crowns, of the permanent teeth any particular bearing upon the peculiar formations of these teeth, and to what extent do they cause impactions? The example, I believe, is ample evidence that we must pay closer attention in orthodontic cases to supernumerary teeth, as to the results they have on dentition, on the formation of crowns and roots as well as on impacted or missing teeth, a further study will prove beneficial.

CASE III. Supernumeraries upon erupting do sometimes fall within the dental arch line without causing a disturbance or irregularity of the teeth. Nature, broadly speaking, in her wisdom undoubtedly provided for such contingencies, as shown in Fig. 8. We here find five lower incisors all the same shape, size, and regularity of form, while the radiograms show the roots of each to be of equal length. Seldom have I seen as perfect an alignment even when the normal number are present. Fig. 9 illustrates the upper and lower dental arches in occlusion, (the right side is almost identical), except for a slight

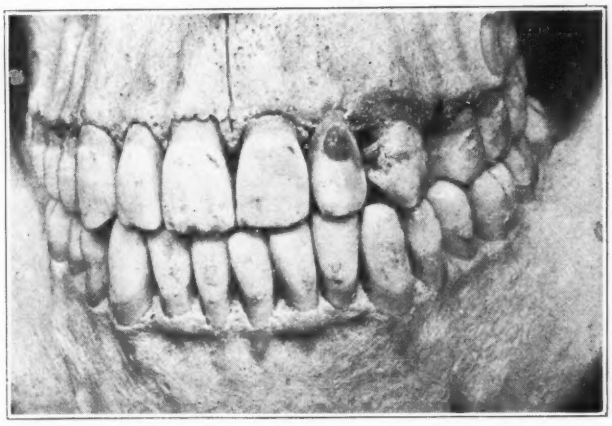


Fig. 10.—Similar condition showing five lower incisors. (Army Medical Museum, Washington.)

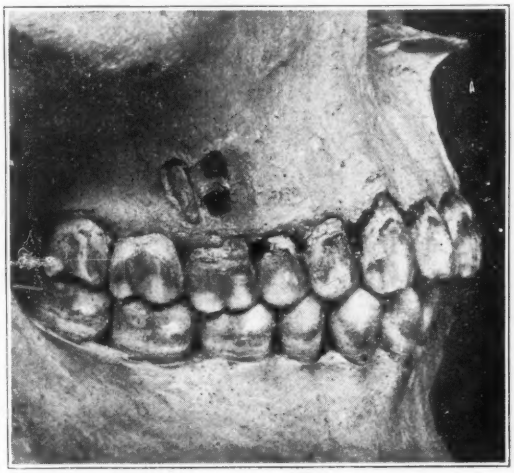


Fig. 11.—Side view of Fig. 10 illustrating a perfect occlusion, although having five lower incisors. See Fig. 10. (Army Medical Museum, Washington.)

overbite the occlusion is perfect. I doubt if any of you would care to extract a tooth to reduce the size of this mandible. Has the arch been compensated by increasing the tooth substance in the upper to take care of the increase of the extra tooth in the lower, or has the amount of tooth substance in the other lower teeth been reduced to bring about occlusion? In this case it looks very much as though it did undoubtedly follow one or the other of these procedures. This is a question that has often been raised at these meetings, but so far remains unanswered.

A similar condition is shown in Fig. 10. Here again we find a short overbite, but this time there is a slight overlapping of the lower anterior teeth. Observe the extreme width of the incisors. Again we are forced to ask a similar question as in the preceding. Fig. 11, the side view, illustrates that here again is to be found an occlusion that is even more normal than in Fig. 9.

Fig. 12 represents a similar case of five lower incisors, but conditions here were quite different and forced us to extract the one tooth on the extreme left to make room for the cuspid. This merely illustrates that nature in her building of mankind does not always follow definite or set rules.

Fig. 12.—Represents a similar case of five lower incisors.

Fig. 13.—Occlusal view, showing the right second premolar erupting within the arch. The left second premolar failed to form. Brother of the sister shown in Fig. 12.

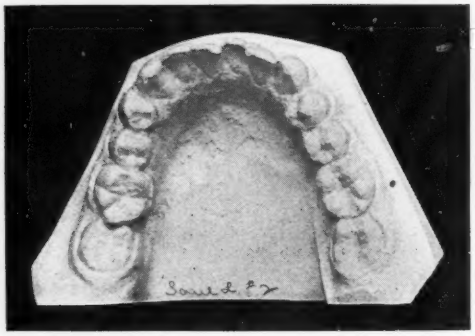


Fig. 14.—Lower arch of same case as in Fig. 13.

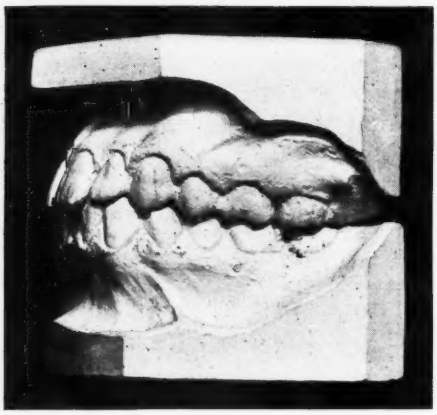


Fig. 15.—Side view, showing a perfect articulation.

Fig. 13 represents the upper arch of the brother and here again an interesting problem presents itself for our consideration as well as to the biologist. The upper left second premolar is missing, the molars have erupted just back of the first premolars; I say erupted and not drifted, otherwise there would have been a tipping of these teeth. Fig. 14 is that of the lower, and we find the articulations as shown in Fig. 15 nearly perfect. Here is a case

Fig. 16.—Represents an extreme type of missing teeth, age 26. Missing upper laterals, premolars, second and third molars, deciduous second molars still in position. In the lower, central, premolars, second and third molars are missing.

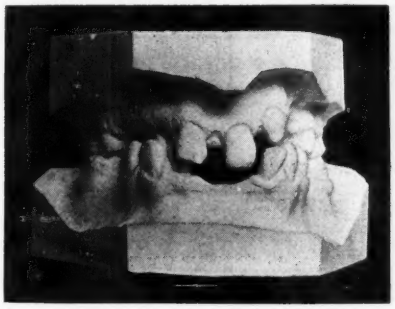


Fig. 17.—The front view showing occlusion.

Fig. 18.—Another case of missing teeth, both upper first and second premolars missing.

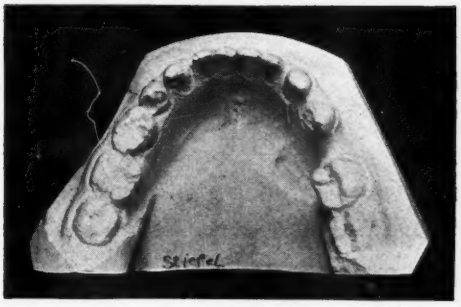


Fig. 19.—The lower, with lower second premolars missing.

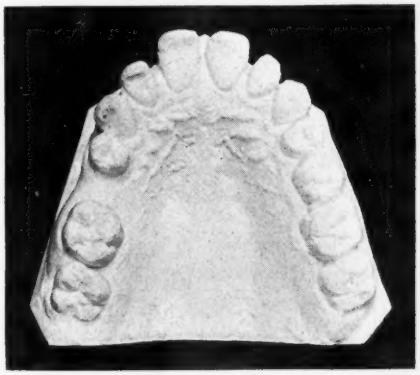


Fig. 20.—Upper second premolars missing.

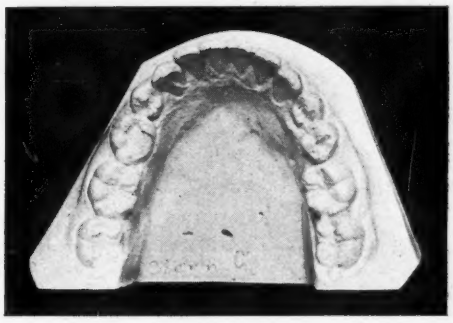


Fig. 21.—Upper second premolars missing.

in which the question involves whether we are justified in opening the spaces between the premolars and molars on the left side and inserting a tooth, while on the right side bringing the premolar into its normal position, or whether we are permitted to extract this tooth. The brother, being the older and lacking a tooth, I often wondered whether nature tried to compensate in the sister that which she neglected in the brother by the addition of the tooth.

MISSING TEETH

Missing teeth are another problem that is of extreme interest to our friends. I need not tell this assembly the problems and tribulations that they bring to us. Fig. 16 represents an extreme case of this type of missing upper lateral, premolars and all molars with the exception of the first permanent ones. In the lower, centrals, premolars and second and third molars are missing. The radiograms fail to locate germs or teeth. The dental arches are shortened, with the lack of alveolar process due to noneruption of teeth. No negative ancestral history in the family has been found so far as can be determined. Fig. 17 shows the teeth in articulation.

Another case not as extreme is shown in Fig. 18. Here the upper premolar and the lower second premolars are missing. Fig. 19 shows peg laterals in upper and diminutive ones in lower. Another sister in the family presents a similar condition, still both parents have the normal number of teeth. The third generation, the ones that would prove the most interesting in this case, I can find out very little about.

In Fig. 20 we find both the uppers; in Fig. 21 the lower left premolars are missing.

Fig. 22, A and B is a slide showing radiograms of the lower left second deciduous molar each taken approximately a year apart, and is of interest to our friends the pathologists, in so far as it illustrates how roots of teeth absorb without the presence of the tooth that takes its place. This tooth has now been lost.

Pyorrhea is another problem of interest. Fig. 23 shows a condition present at twelve, although it had existed for at least four or five years prior. The upper permanent central and incisors, with the four lower incisor teeth are loosened and ready to drop out of their sockets. Occasionally we find cases as early as this age, and the etiology must be more than the malposition of the teeth.

In connection with missing teeth, there are two more cases I desire to record not so much as to the nonpresence of teeth but on account of the peculiar condition often associated with them, and also as in this case, the similarity of conditions in various members of the family. Figs. 24, 25, and 26 are of two sisters with upper missing laterals, a third sister also lacks these teeth. No third molars have erupted or are to be found. In Fig. 27 we find not only the presence of the lower left deciduous cuspid, but the permanent one as well. This is a condition we are apt to find in this type of case as well as sometimes the entire absence of the permanent cuspid.

Fig. 22-A.—Radiogram of Figs. 20 and 21 with left lower deciduous second molar in place, showing no permanent tooth to take its place.

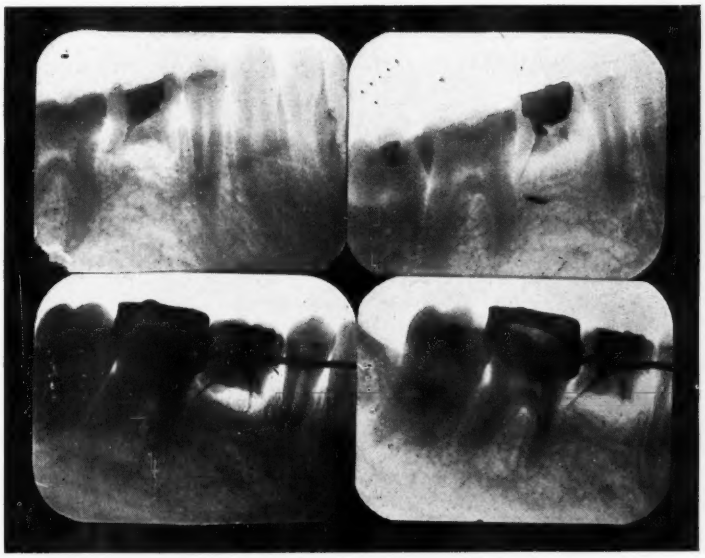


Fig. 22-B.—Series of radiograms showing absorption of the roots of the second deciduous molar, no permanent tooth to take its place.

INTERNAL SECRETION

Wherever we have the presence of both the deciduous and permanent teeth, or the nonpresence of the tooth, we have without question the problem of internal secretion to contend with. This question leads us to one of the most complicated factors in orthodontia, the one we know so little about and

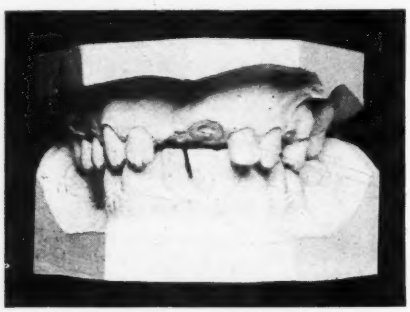


Fig. 23.—Child of twelve showing the loss of upper anterior teeth due to the so-called pyorrhea condition.

Fig. 24.—Upper case of missing teeth.

Fig. 25.—Lower case of missing teeth, germs having never formed.

Fig. 26.—Upper showing a similar condition.

Fig. 27.—Lower showing a similar condition as found in the sister, Figs. 24 and 25. In Fig. 27 is found not only lower left deciduous cuspid, but the permanent as well.

are beginning to find so often in our practices. It is a problem we must leave to our medical coworkers to solve, until we ask them to aid us in this work the etiology of our cases in orthodontia will remain obscure. We as ortho-

dontists can and must call their attention to this type of case and seek their cooperation early enough to prevent in the patient the more complicated conditions such as goiters, etc., from arising.

The next figures are two of six I showed last year, calling your attention to the importance of observing spacings between the posterior teeth, Figs.

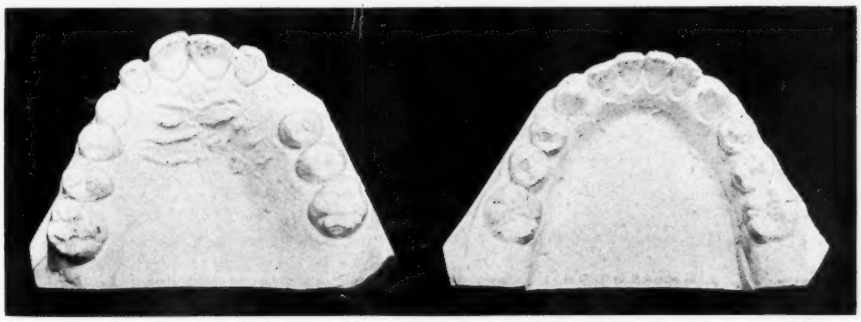


Fig. 28.—Overdevelopment of the maxillæ and mandible and marked spaces between the cuspid, premolar, and molar.

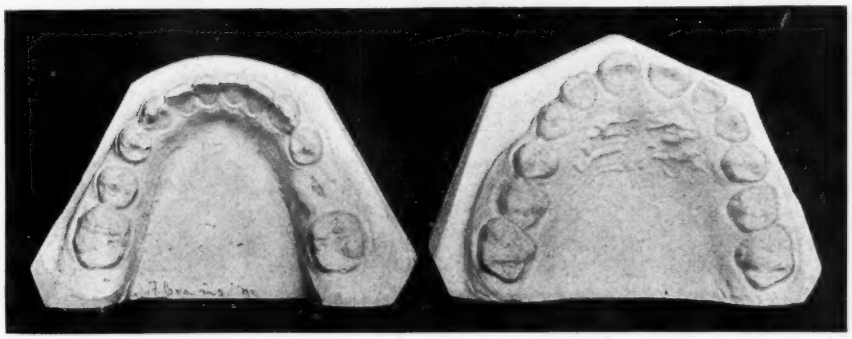
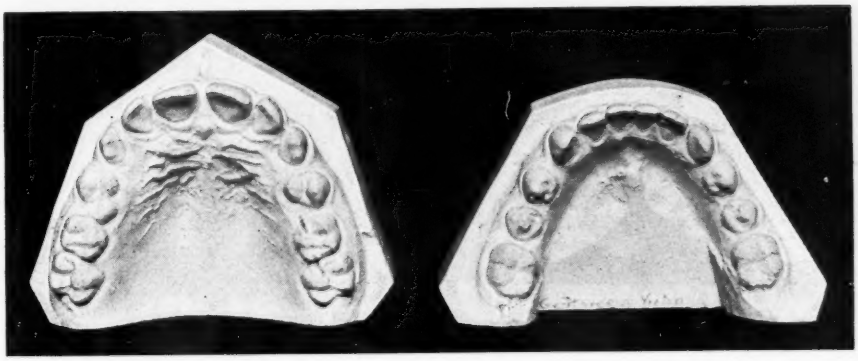


Fig. 29.—Similar to Fig. 28, the spacing between all of the teeth.



Figs. 30 and 31.—Overdevelopment of the maxillæ and mandible associated with thyroidism.

28 and 29, while Figs. 30 and 31, a case I recently had in my office, are probably the most interesting of them all, as this case shows the overgrowth of both the maxilla and mandible better than any of the others that I have so far reported. Strange to relate here is a coincidence as in the other cases, namely, that we find the mother suffering from and being treated for thyroidism,

either hyper- or hypo-. As much as some orthodontists desire to overlook this state of affairs, they can not get away from this phase of the subject, and therefore all of us must go deeper into our investigations along this line. In the above mentioned two cases, Figs. 28 and 29, I desire to report here, both have been under medical supervision for a year, and I am glad to state there has been no increase in bone growth, although at the age of thirteen one would expect some further normal development, thus showing that the increase previously reported has been arrested, and now orthodontic treatment

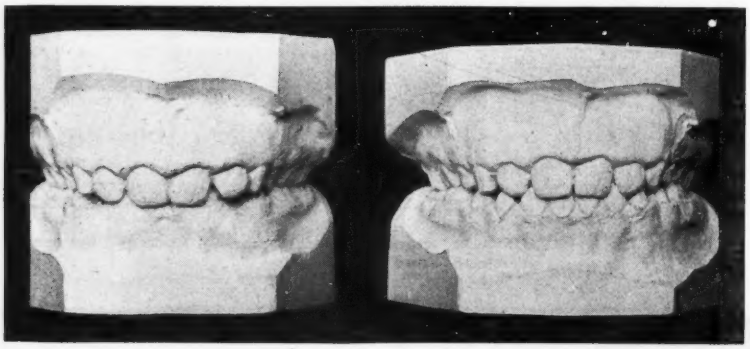


Fig. 32.—Front view of the case showing the beginning and half way through treatment, showing opening of the bite.

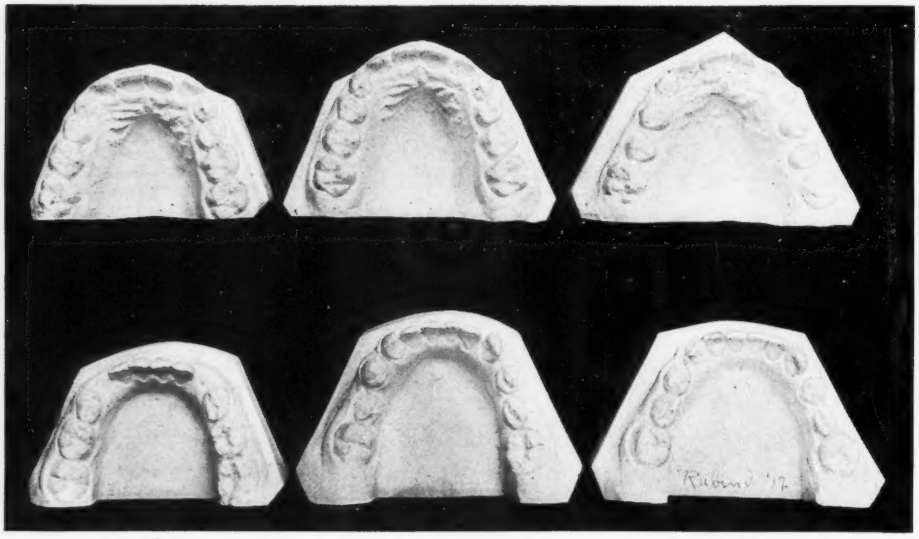


Fig. 33.—Occlusal view of Fig. 32 showing a progressive case of ages ten, thirteen and fourteen, showing increase of bone growth and spacings between the teeth, peculiar undersized shape of second premolar.

might be of some assistance. How strange it is that only recently we began to realize that this growth must first be checked physiologically before beginning treatment of these cases.

Another phase of internal secretion, one that the orthodontist meets often but has not as yet realized the vast importance of, is shown in the Fig. 32; at the same time I know that this case has proved of interest to various

men. I did not take into consideration, until I was led astray, certain important fundamentals at the beginning of treatment. Therefore I will give a brief history of this case, knowing it will bring to your mind similar conditions which some of you undoubtedly have met. Fig. 32 shows the front views of the case at the beginning and half way through treatment, after I thought that occlusion was established and the bite had been opened. Had the teeth been normal in shape and size, the case might have held, but instead has now returned to its original condition. As can be seen in the occlusal view (Fig. 33), the one on the extreme right shows a marked increase in structure between the four posterior teeth. This is not due, however, to abnormal bone growth as at first might be presumed, but to a decrease in tooth structure in the permanent dentition, for the spacing has remained

Fig. 34.—Supposedly missing lower canine found at right angles and at the apex of the lower second molar.

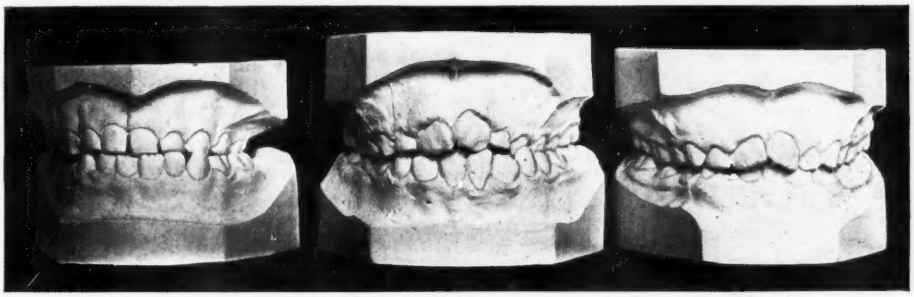


Fig. 35.—Illustrates a similar condition found in three members of the family.

the exact size of the deciduous molars. Not only had the teeth decreased in size, but the second premolars are malformed in shape. As shown in my paper of last year (published in the January number of the *Dental Items of Interest,* and the *International Journal of Orthodontia)* internal secretions do affect the size of the teeth as well as their form, but the question naturally arises of how we are to determine this when treatment is begun and before the permanent teeth have erupted.

In the case of missing or supposedly missing teeth Fig. 34 illustrates how misleading small film radiograms might be misinterpreted. A young man thirty-two years of age lacked a lower right permanent cuspid; radiograms of that locality fail to reveal a tooth. After taking a full plate, located the

cuspid at right angles and at the apex of the second molar, as seen in the above figure.

It is not unusual to find conditions that are similar in various members of the family as will be seen in Fig. 35. Three sisters, all having the upper right side occluding within the lowers and the same peculiar rotation of

Fig. 36.—Illustrates a case where we presume the second lower deciduous molar has been lost.

Fig. 37.—Maxillæ and mandible. Occlusal view of Fig. 36.

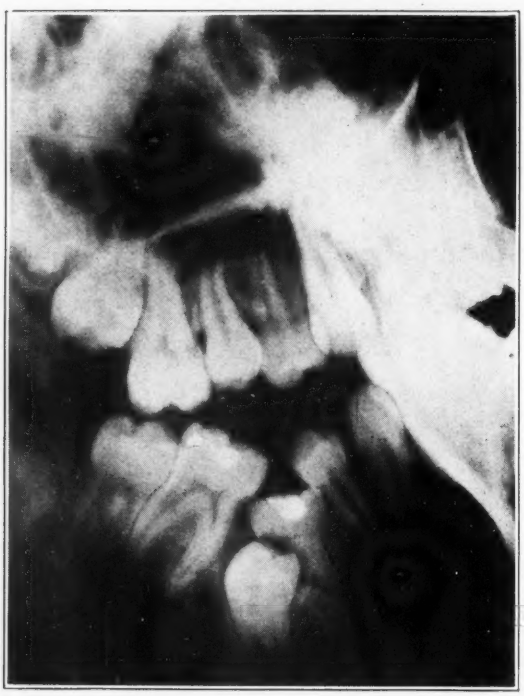


Fig. 38.—Radiogram of Figs. 36 and 37 showing not only the presence of deciduous second molar, but also an impacted second premolar.

the upper central incisors (the one on the left having lost her upper and the permanent have erupted as in the other two cases). Another child, a boy, also shows this same tendency. Again we find that often-repeated question: What part does heredity play in our work?

Some years ago, a member of this society, I believe, formulated such a rule, where we find depressed deciduous molars especially the second we were pretty apt to find the premolars missing. Fig. 36 shows a case in which it was presumed the second deciduous molars had been lost as there was no indication nor room for them, as seen in the above Figs. 36 and 37. That

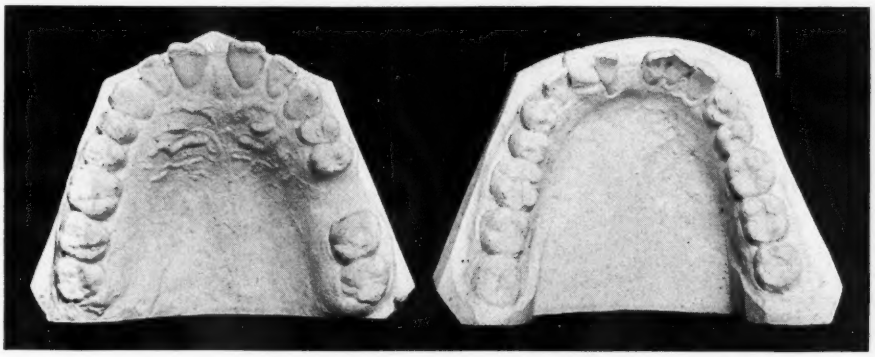


Fig. 39. Fig. 40.

Fig. 39.—A case of macroglossia, upper dental arch showing spacing between the upper central and incisors.

Fig. 40.—Showing the same separation in the mandible betweeen the central incisors, also transposition of teeth. The left lateral, canine, and central, on the right the lateral, central, and canine.

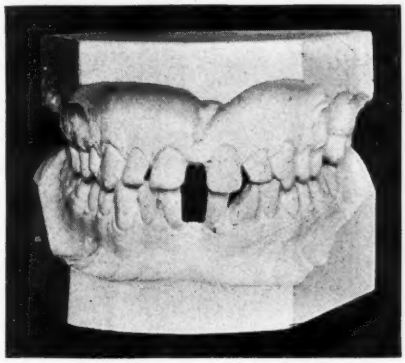


Fig. 41.—Front view occlusion of Figs. 39 and 40.

this rule does not hold good is indicated in Fig. 38. This radiogram not only reveals a rotated impacted premolar, but also a deciduous molar imbedded far below the gum margin.

Before closing it is my desire to present two cases of macroglossia and the extreme difference as to the course each took. Fig. 39 is that of a young man twenty-two years old, the macroglossia in this patient has resulted in a wide separation of the anterior teeth with extremely large dental arches. A careful observation of the lower (Fig. 40) reveals not only this spacing, but also a remarkable transposition of teeth, the laterals taking the place of

the centrals, better seen in the mouth than in the slide, as those that are now first I find are the larger teeth, while the left cuspid is found placed between the laterals and the centrals. This case has retained the normal mesiodistal relation (Fig. 41). According to the mother's description, the father suffers from a malady similar in form and result to that seen in the son.

Fig. 42 is that of a child three years of age. This time the enlargement of the tongue has caused the mandible to protrude as shown by the position of the temporary cuspids, with a slight increase of bone growth between all the teeth. An extreme open bite has resulted with a retardation in alveolar develop-

Fig. 42.—Child three years of age. Macroglossia.

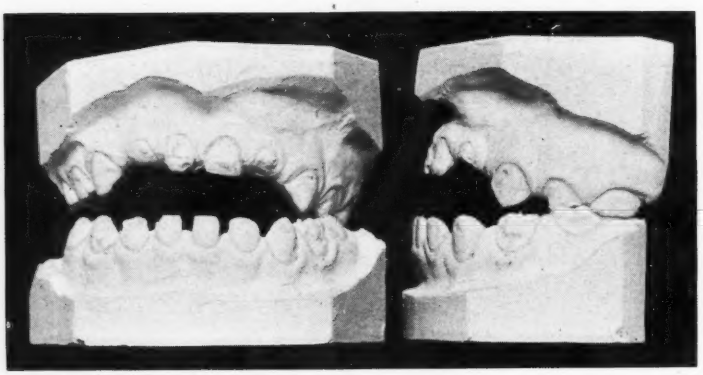


Fig. 43.—Front and side view showing the effect on the dental arches and occlusion.

ment in height, yet Nature is trying to do her best by holding in apposition the last three teeth on the left side. Owing to the difficulty in cleaning the teeth most of the dentine has been attacked and broken down, as shown in Figs. 42 and 43. Fig. 44 shows a radiogram of this case and the effect of tongue pressure. As the tongue is being reduced in size by the time that the permanent teeth erupt orthodontic treatment might be of some assistance. Figs. 45 and 46 are photos of the child, the side view showing the effect on the profile due to the inability of the tongue to remain in its normal position. Fig. 47 shows the condition of the tongue.

The cases presented here are but a few that illustrate abnormal conditions met with in our orthodontic practices, and are still to be solved; we all have as interesting ones and as repeated requests have been made for our cooperation

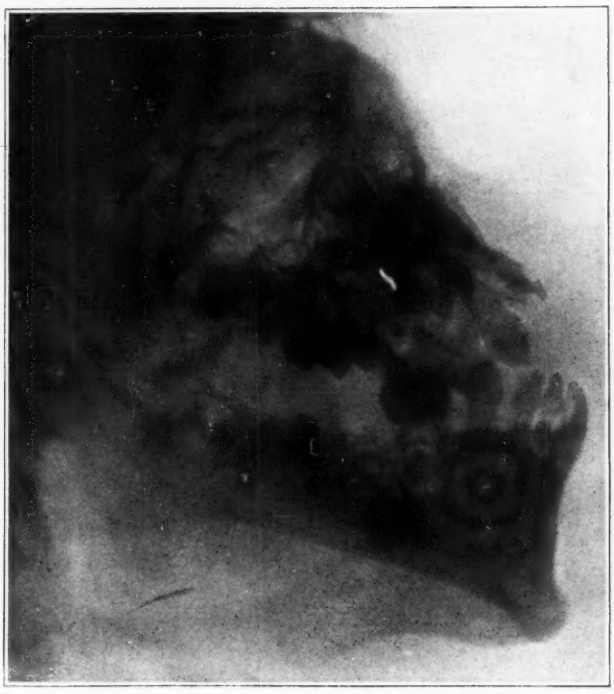


Fig. 44.—Radiogram of the case, showing the presence of the germ of the permanent teeth.

Fig. 45.—Front view.

Fig. 46.—Profile view.

from associated scientists it is our duty as individual members to permit those men the use of that material they so eagerly seek. And in conclusion on their behalf I make such a request with a suggestion that the Executive Committee

gather such material from each individual member and at our annual meetings present it at a general session, in order that we may all derive benefit thereby. This material might then be transferred to some institution for scientific usage.

SUMMARY

In summarizing this paper I can only add those words found upon the cover pages of one of our foremost dental journals:

"Observe, Compare, Reflect, Record"

1. *Observe.*—In observing more closely those cases in our practices greater light, information, and truth will result.

2. *Compare.*—By comparison of cases correlated facts will be observed so that science will derive the benefit.

3. *Reflect.*—Reflecting on what we have observed after a comparison of our models orthodontia will gain as a science.

Fig. 47.—Size and condition of the tongue.

4. *Record.*—Record our material for the benefit of others, as well as those in science, so that through observation, comparison, and reflection, associated sciences will then be of some assistance to orthodontia.

DISCUSSION

Dr. M. N. Federspiel, Milwaukee, Wisconsin.—I did not have an opportunity to see this paper until it was handed to me today by Dr. Fisher. Dr. Weinberger opens a field for research which carries me back to the day when I was taking my medical course with teachers who spoke on the subjects of club-feet and web-fingers and it brings me back to the theory of Cohnheim, who puts it in a nutshell when he says, "misplaced embryonic cell." That is where he stops. That is as far, I think, as we can go fundamentally at present—misplaced embryonic cells. This paper offers a wonderful field for research.

Speaking of supernumerary teeth and malformed teeth, we have to go into the subject of heredity. When we speak of teeth being found in a dermoid and dermoid cysts, and of finding teeth in the ovaries, and we find that these dermoids contain hair and

normally shaped teeth, the medical man is up in the air. That is as far as he can go. I have seen a number of cases where very large cystic ovaries have been removed containing hair and normally shaped centrals, laterals, or cuspids. It is a question of pathology after all.

With reference to follicular cysts, to this day we have not been enlightened in regard to them.

As to the subject of odontoma, I believe the British Dental Society had a number of men who collaborated on this subject and wrote a book on odontomas. I think the book is the property of the British Dental Society. I have it in my library. They speak of cementomas, osteocementomas, osteoodontocementomas, etc.

The subject of multilocular cysts and dermoid cysts is confronting the medical man as well as the orthodontist, and it is up to the researchers to carry these things out.

The essayist mentioned a case which he calls pyorrhea. There has been a great deal of discussion on the subject of pyorrhea, and it is believed now that there is no such thing as pyorrhea as a disease. It is a symptom of a disease, a condition like necrosis. We do not speak of necrosis as a disease but as a symptom. The essayist should differentiate between gingivitis, gingivo-pericementitis, or gingivo-osteo-pericementitis, and so on.

As to the internal secretions, I heard an eminent surgeon of the American College of Surgeons say that we think through our secretions. That is as far as they have gone. So these are subjects which have to be considered.

I can not add any instruction or suggestions to this paper, because I am up in the air in regard to many things. I know these things exist, that they need to be treated, but we do not know the etiology. I thank you. (Applause.)

Dr. O. W. White, Detroit, Michigan.—Dr. Weinberger has again brought before our society a subject which gives us food for thought along lines that open to orthodontia the greatest opportunity for progress.

The mechanical treatment in our profession has developed to a marked degree, and as I stated in my paper on "Tissue Growth" read before this society two years ago, orthodontists have great opportunity to assist and be assisted by the scientific men who are striving to work out the great and mysterious forces which control tissue growth.

The essayist has shown a number of cases in which abnormal conditions have existed, and has called attention to evidence of counter-balance or compensation to tissues to offset improper development.

The great problem of internal secretion disturbance is one which the essayist says we must leave to our medical coworkers, but I wish to call your attention to the fact that the orthodontist has many opportunities to assist in observations of patients, suffering from these disturbances, and as any advancement in treatment or knowledge of conditions would be of such great value to us, we should all strive to do our share in securing data along these lines.

We are in a position to offer our allied scientists some very valuable information regarding tissue response to mechanical stimulation, which should be of great value to students of life processes.

When we have more definite knowledge as to vital forces governing tissue growth, the orthodontist can enter upon a new phase of orthodontia practice which will be preventive measures of a nature that will be of untold value to humanity.

However, at present time, we are a long way from the goal, although the new physiology as advocated by Haldane, of Oxford, is a step forward, it concerns itself with the study of normals; how they are related to one another, how they react on, or are affected by, other "normals," their relationship to environmental conditions, and so forth. It is not biophysics or biochemistry, but is biological physiology. The attempt to interpret living organisms in terms of physicochemical laws is judged as having been "the most colossal failure in the whole history of modern science."

Dr. Weinberger's recommendation that members of this society observe, compare, reflect, and record to a greater extent is very timely, and I trust that we, as individuals, and as a society, will heed this advice which will surely be of great value.

I wish to thank the essayist for this presentation of his paper, and I hope we will

have a number of such papers which will stimulate thought along these lines with the hope that in the very near future we will have some definite knowledge which will be of value in our practical work.

Dr. Weinberger.—Dr. Federspiel's copy was sent him at the same time Dr. White's went out, and that was ten days prior to the meeting. I am sorry he did not receive it before leaving for Chicago.

I have merely touched on certain interesting material found among our varied collection of cases, offering no solution to the problem, as I believe it beyond our ability. However, in presenting these cases it might act as an incentive to others and when a sufficient number have been obtained, other scientists might then be able to solve these questions for us.

In the case I called pyorrhea, there was a great amount of pus present, therefore, it had become chronic and could not be classified as the other so-called earlier symptoms of types of this condition. I agree with Dr. Federspiel that pyorrhea is a symptom of a condition and not a disease.

Perhaps it may be true that we think with our internal secretions, at any rate one thing is certain, that is a great many men who have brains never use them, or let us say, never allow them to be stimulated, in those cases not knowing just what are the exact functions of the endocrine organs, it might be proper to put the responsibility upon those same organs that are now being blamed for practically half of our illness. I thank you.

THE VALUE OF ENLARGED PHOTOGRAPHS OF PATIENTS IN PRACTICE*

By George F. Burke, D.D.S., Detroit, Mich.

After completing a course at the Dewey School of Orthodontia several years ago I became impressed with the importance of having a means of making clear to people what could be accomplished through orthodontic treatment. Models do not tell the whole story. Textbooks, unless you are fortunate enough to have one of your own, do not answer the purpose, for it is not your own work. After going over this subject, I have concluded that parents and patients more quickly understand what you propose to accomplish where one uses both models and photographs.

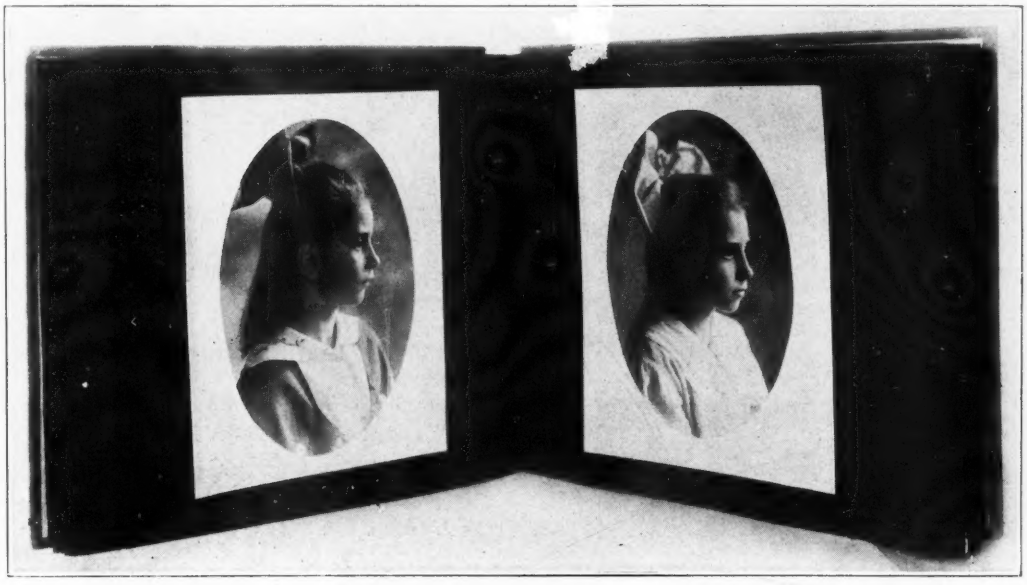


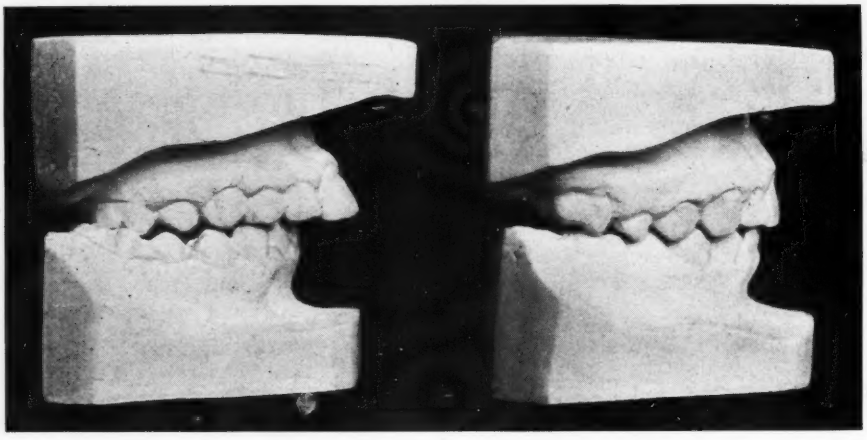
Fig. 1.—An album keeps enlarged photographs in good condition.

Some men in this field keep carefully the pictures of their patients showing conditions before and after treatment. Others pay very little attention to it. In some instances they will be slipped into some drawer, and mixed up with odd bits of stationery, and when they are most needed, one is unable to find them. Delay occasioned by searching around in some drawer for a missing picture is annoying, and not unlike hunting for a collar button that has fallen under the bed.

In order to make sure that photographs will be preserved in good order, I have for some time made use of an album, as shown in Fig. 1. The picture, taken before treatment was taken up, is placed on the left, and finished result

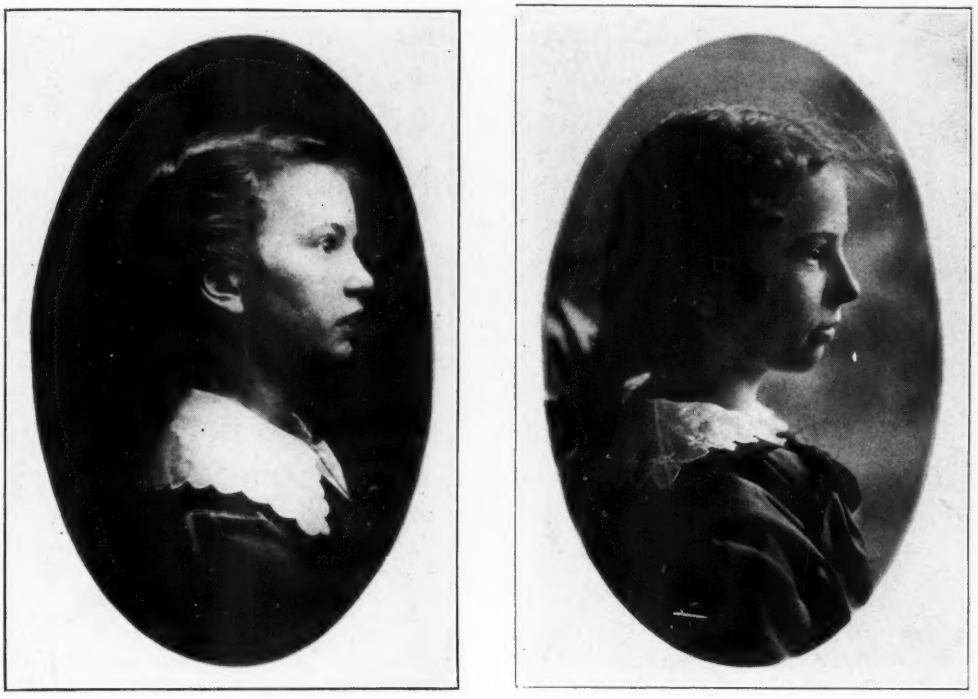
*Read before the Alumni Society of the Dewey School of Orthodontia, Chicago, Ill., 1918.

A. *B.*

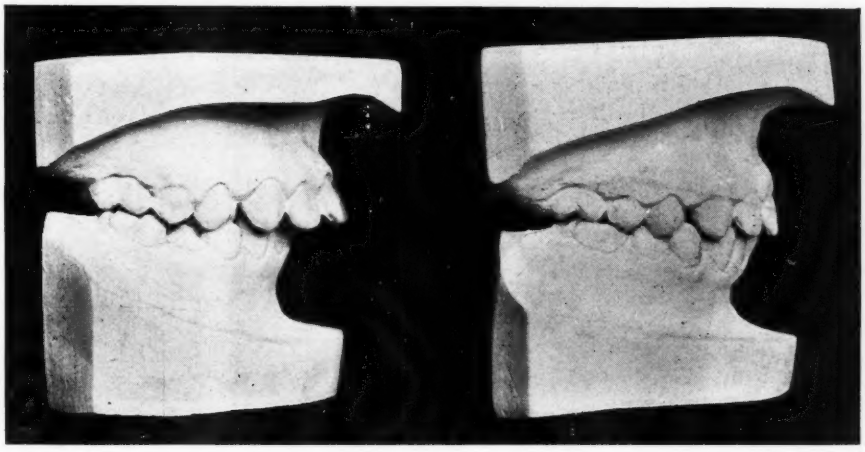


C. *D.*

Fig. 2.—A very attractive young lady, showing both pictures and models of her teeth taken at the beginning and end of her treatment.



A. *B.*



C. *D.*

Fig. 3.—Shows both pictures and models before and after treatment. Period of treatment nearly three years.

on the right. They are not retouched, but they are uniformly enlarged. Neither are these pictures taken of all the children, but only of those where we feel that the treatment will change the facial contour or expression.

One forms a very strong attachment for a collection of photographs of children who have gone through treatment. During a considerable period they come frequently into one's life, and we learn much of their habits, peculiarities, and their hobbies. In many instances, we grow very fond of them, and our memory goes back, as we turn over the pages of such an album, to the time when either the child or one of its parents was kind enough to express appreciation of what had been accomplished. Both because of our friendship for these young people, together with a just pride that we take in seeing this work carried to a successful completion, we attach an immeasurable value to a book filled with such photographs.

The album shown in Fig. 1 has a cover made of soft vellum leather brownish in color and smooth in texture. It has loose leaves, and they are of very heavy black cardboard and not easily wrinkled. Extra leaves are kept handy so that additions can be made from time to time. The photographs are mounted in each instance so that the case before treatment will appear on the left, and the completed case on the right.

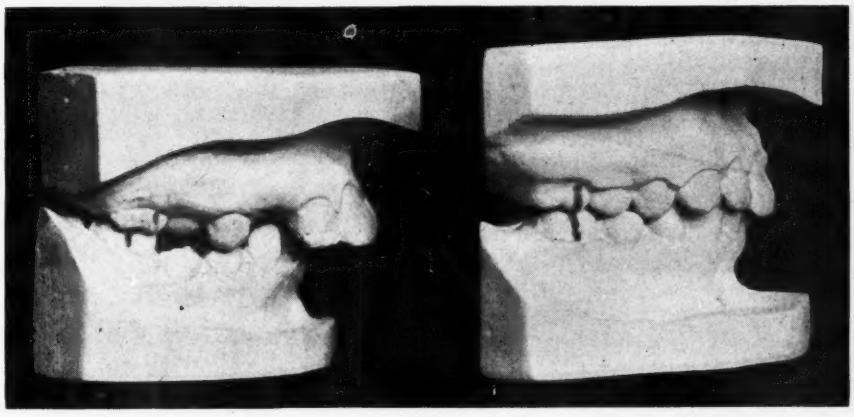
Parents bring their children for orthodontic treatment frequently with much hesitancy. In many instances they have heard ugly rumors in regard to this service. They have heard that it caused pain. They have been told that the appliances will cause the teeth to decay. It has also come to their ears that the teeth after being moved do not always remain where the operator intended they should.

Many people are like those from Missouri, when it comes to deciding on the wisdom of having their children treated for malocclusion. These enlarged photographs furnish one a splendid medium of impressing people with the changes that result through treatment.

Where parents bring children showing a condition of marked Class II, and express a wish to have such conditions corrected, one can not by means of models show what changes can be looked for in the teeth alone, and without photographs one can not make clear the very great changes to be expected through correcting the malocclusion. Where the features are affected by the malocclusion, benefits to be derived from treatment can not be made clear without suitable pictures such as are found in the accompanying illustrations.

Do you think that any parent wishes to bring a child up with such features as the cartoonist makes use of in his caricatures of a pugilist or professional ball player, when she once realizes that marked benefit will result from proper attention? Never, provided she has education, forethought, and funds to carry it through. Models may show that the upper teeth are distal in their relation to the lower, but the parent will not be convinced that changing the relative position of the teeth in one arch to those in the other, actually does reshape the chin, lips, and cheeks until she sees photos, showing other cases that have been treated. Orthodontic treatment is so clearly indicated in thousands of cases

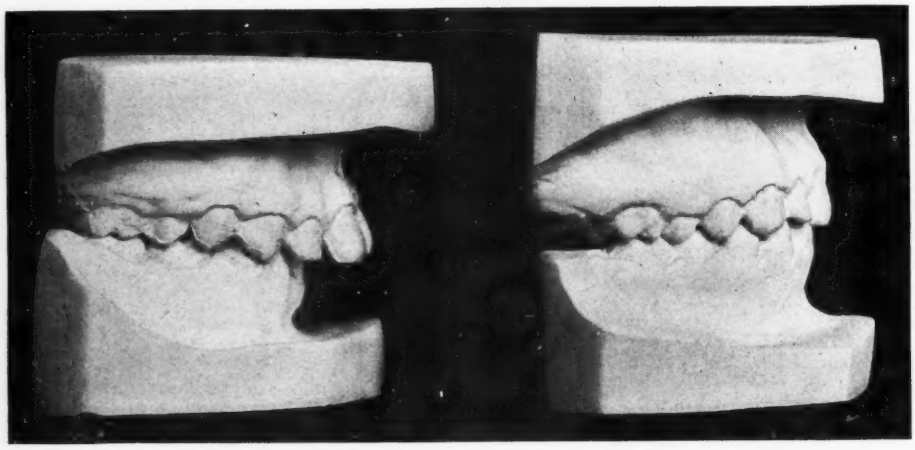
A. *B.*



C. *D.*

Fig. 4.—Genuine appreciation on the part of both patient and parents has resulted in case of Fig. 4. Period of treatment two and one-half years.

A. *B.*



C. *D.*

Fig. 5.—The photographs and models tell their own story. Period of treatment more than three years.

that have to go untreated, that it would seem that this whole subject should be studied by the very best professional and business minds with the end in view of meeting the great needs of this work in a more satisfactory manner.

This country, owing to its very large middle class, has more trained orthodontists, without doubt, than all the other countries combined, and as one surveys the whole field both among the laity, and in our own specialty, one is very much inclined to feel deep gratitude toward such men as Angle and Dewey for their service in giving instruction in this subject to such a large number of men and women who have carried on their work in so many different localities.

The demand for well-trained men in orthodontia is not growing less; it is on the increase, and there are a number of reasons why the demand for this service should grow. In the first place those that have followed carefully the teachers of this subject in a good postgraduate school are getting highly satisfactory results. Then the mouth hygiene movement is doing much to direct the attention of parents to faulty occlusion of the teeth. Health exhibits are a strong educational factor. "How to Live," by Irving Fisher, and "Breathe and Be Well," by Dr. Howard, are books that are both being widely read today, and both have chapters dealing with this subject. The passing of John Barleycorn will give people more funds to spend in behalf of their own physical welfare.

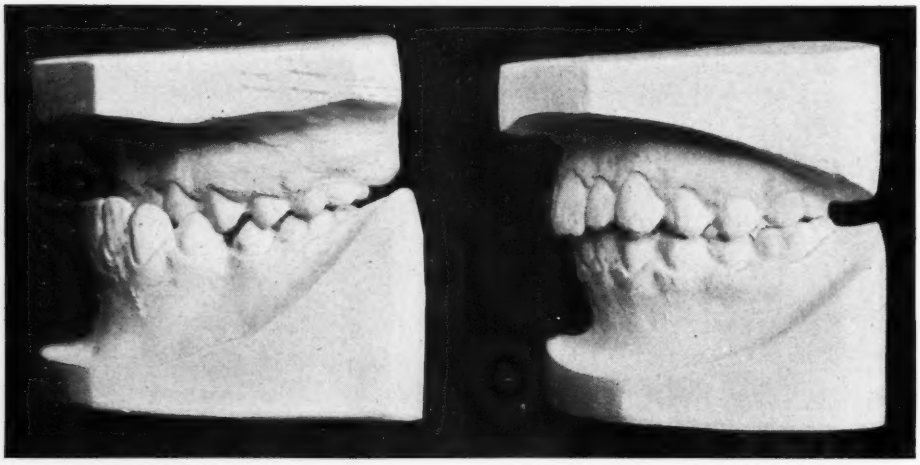
By means of the draft employed to raise the army in this great war, from which this country has just emerged, the fact should be driven home to legislative bodies in this country that physical defects and disease bar the way to many who would serve their country at such a time. The fact that so many fail to pass the tests in such a crisis would lead one to believe that one of the prime benefits to be derived from such a conflict would be an awakened conscience relative to the whole subject of hygiene, resulting in a willingness on the part of the people to spend appropriations freely in the matter of health propaganda, so that there will be less disease.

Before leaving the subject of pictures, it is my wish to dwell for a brief period on another kind—the shadow picture or radiogram, which in the hands of many men is a splendid means of diagnosing conditions about the mouth. While in recent years this method has been in much more common use than formerly, there still remains much educational work to be done before they will be used as extensively as they should.

Both the medical and dental profession appear to be divided into three great classes. First, those that never use radiograms; second, those that refer such work out now and then; and, third, those whose offices are fully equipped with suitable apparatus, and who make the fullest and freest use of it, as occasion requires.

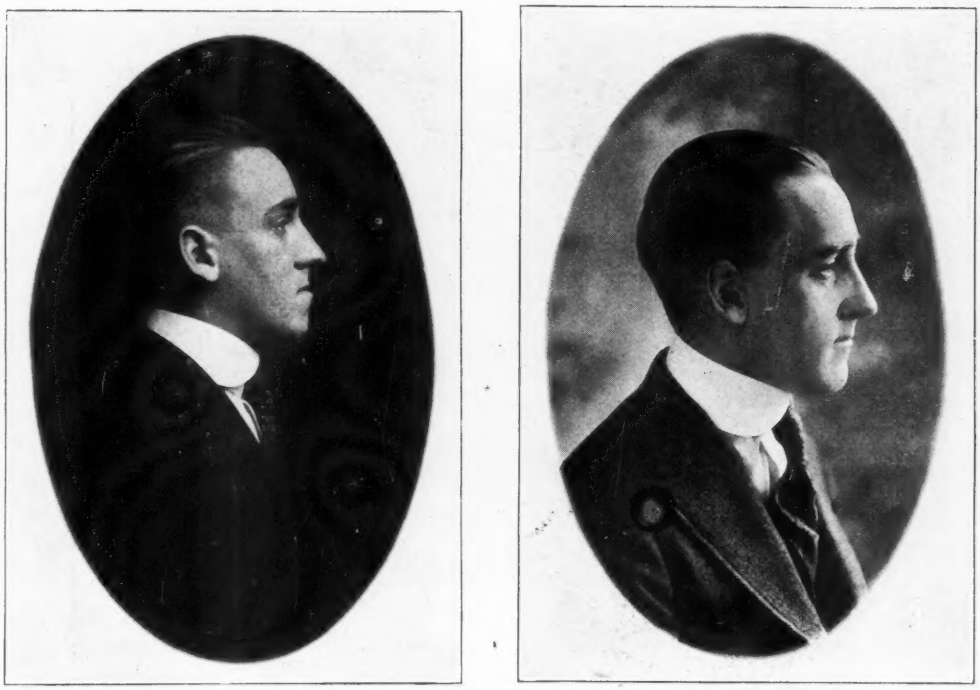
Let us take, for instance, the case of two dentists located in a small town, suppose that one makes free use of the x-ray in his diagnosis, and that the other does not know its value and refrains from its use. Who is going to be right more often in diagnosis? You know the answer, and we also know that the thoughtful people living thereabouts will know the truth some day, and that the man who makes the smaller percentage of mistakes in his work from day

A. *B.*



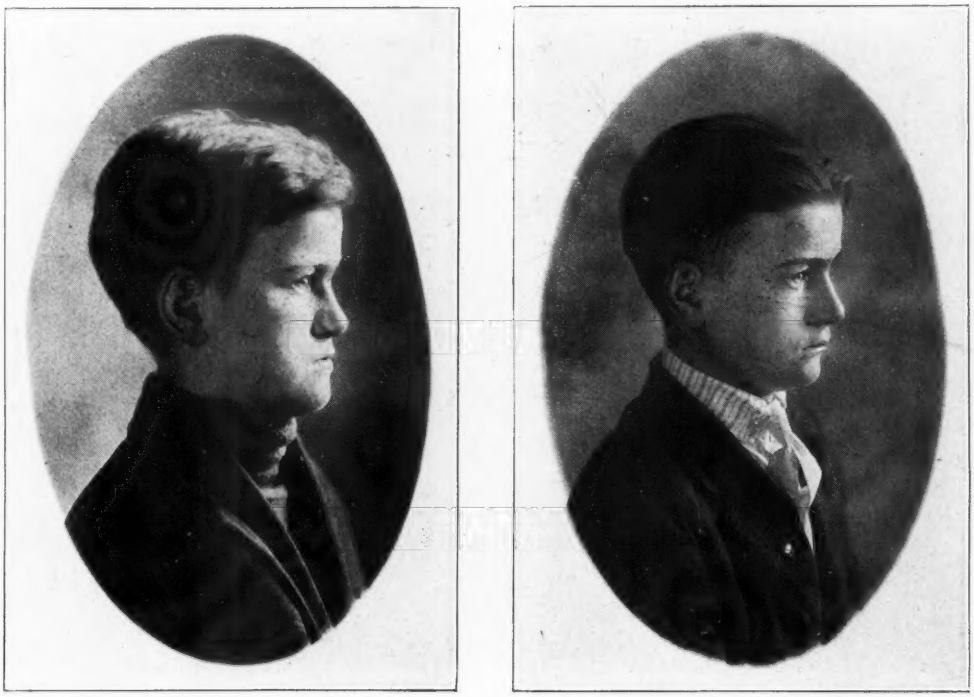
C. *D.*

Fig. 6.—A very marked case of protrusion of the mandible. Corrected after a period of treatment extending over a period of two years.



A. *B.*

Fig. 7.—Shows picture taken before and after treatment. The arches were somewhat mutilated.



A. *B.*

Fig. 8.—*A* shows a patient with upper incisors distal to the lower incisors. *B* was taken 18 months later, when the relationship had been changed.

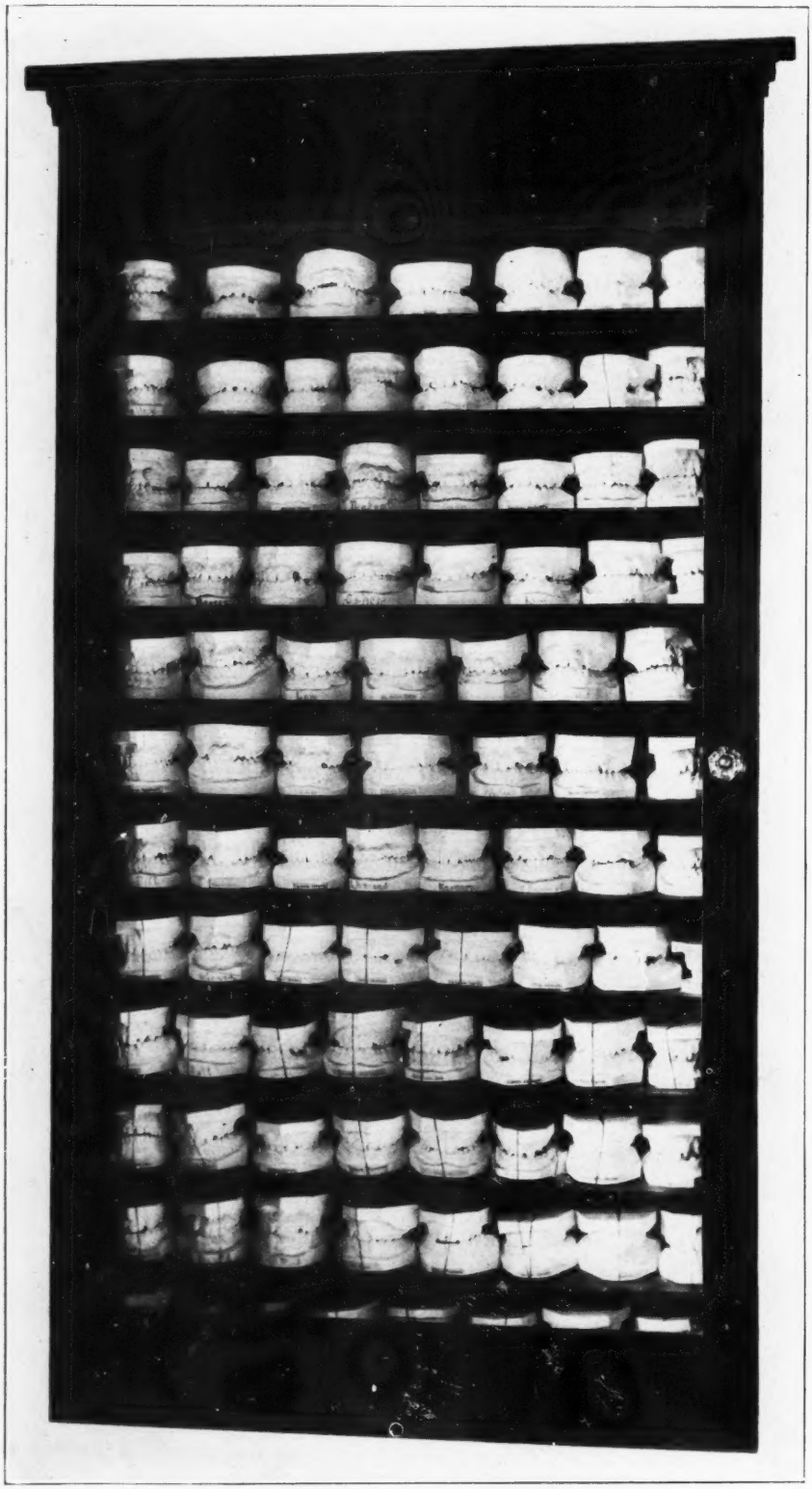
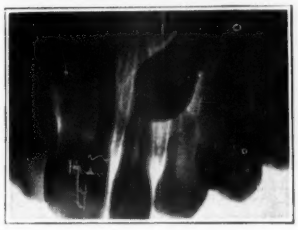


Fig. 9.—A cabinet for models of patients under treatment.

Unerupted teeth.

Unerupted premolar.



Unerupted cuspid.

Unerupted cuspid.

Unerupted premolar.

Unerupted cuspid.

Unerupted teeth.

Unerupted cuspid.

Unerupted teeth.

Unerupted premolar.

Fig. 10.—Good radiograms are indispensable in diagnosis.

to day is the one who will have the confidence of a large number of that class of citizens whose patronage is most sought.

The subject of radiography is never called to my attention but my mind goes back to a scene in a hospital operating room where an unfortunate woman was being operated on for removal of a lower impacted third molar. Her case history showed that she had suffered for a period of eight years from facial neuralgia. As the patient wore full upper and lower dentures, it was not at first suspected that the real cause of the ailment was an unerupted tooth. But after this very long period of suffering she was finally prevailed upon to have used the x-ray, revealing as it did this tooth, located down towards the angle of the jaw. Its successful removal resulted in an early recovery.

The splendid work done by such men as Hartzel, Mayo, Morehead, and Price would indicate that there are thousands and thousands of patients in hospitals and occupying invalids' beds, who if they could be prevailed upon to have their dental arches radiographed, and the necessary corrective work done as indicated, many of them would, in a comparatively short time, be in position to regain their health.

In orthodontic practice, radiograms reveal which teeth are missing and by means of it one can check up the progress being made by teeth that have not yet erupted, and the presence of a good outfit in your office results in a greater degree of satisfaction on the part of patients. My experience teaches me that they do not wish to be referred to others every time one wishes a radiogram. It establishes an operator, in their minds, as one who is more fully equipped in the matter of appliances, than the one who is groping in the dark in regard to those matters that are so important to the welfare of patients.

SOME PROBLEMS OF THE ORTHODONTISTS*

By Mrs. Edith S. Roberts, Warrensburg, Mo.
Dental Hygienist

THE world moves. Science is progressing in these days, not by inches and feet, but by leaps and bounds. Not only has the world witnessed during the past three years the most wonderful advancement in the horrible methods of warfare, but also in the multitude of life-saving agencies. These include, among others, the wonders of modern surgery; the many activities of the Red Cross and Ambulance Corps; the preventive measures of vaccination and inoculation, and a fuller knowledge of hygienic living. Nor must we neglect to mention the remarkable results of the Dental Research Committee, the mouth hygiene movement, and last but not least, the strides taken in orthodontic circles. But the end is not yet. Greater evils require greater remedies and preventive measures.

The medical and dental examination of school children for the past few years has proved the crying need of the medical and dental clinics, toothbrush drills, and "mouth hygiene" weeks. And yet, above and beyond it all is the prophetic dawning of a greater life-saving movement. It is the glimpse of a day when the orthodontist, the physician, the psychologist and the social worker will labor hand in hand for the suppression of crime, and the elimination from our midst of the feeble-minded, delinquent and otherwise abnormal and inefficient people. The intimate relation of mind and body, of brain and face, bring the orthodontist and psychologist face to face with the same problem. Let this problem be our theme for a few minutes.

Reports of dental clinics being carried on in the public schools of several hundred cities of the United States, and also in institutions and among the industries, prove that irregularities of the teeth, and malformation of the jaws and face, are so prevalent that urgent measures should at once be adopted to correct these great evils.

Dr. Lischer, in his book "Orthodontics" says, "It has been estimated that fully fifty per cent of the children of every community are afflicted by some form of malocclusion of the teeth." There are fully 20,000,000 children marching to school every day in the United States. If it is true as Dr. Lischer says, that fifty per cent of these children are afflicted with some sort of malocclusion, it would then appear that about 10,000,000 children are this very day awaiting your services in the United States.

"Well, what of it?" you say. Just this. Malocclusion causes, first, overlapping teeth, and hence their rapid decay; second, insufficient mastication, causing malnutrition, lowered vitality, and retarded development, along with the train of ills which follow; third, restricted arches, which means also restricted nasal cavities, and lack of proper development of the internal face and base of

*Read before the Alumni Association of the International School of Orthodontia, Kansas City, Mo., July, 1918.

the brain. These and other results of malocclusion are quite enough to partly account for the many cases of deficient children and adults in this country.

Just how these physical defects affect the mentality and morality of a human being is a very interesting study, especially when combined with the study of psychology.

The human mind is necessarily influenced more or less by the brain and nervous system. Anything, therefore, which limits or retards the growth or proper function of the brain, limits and retards the free, natural and normal growth and function of the mind.

Would it not be true then that in cases of malocclusion in which are found the misshapen, undeveloped or restricted arches, we will find that the inner face and base of the brain are also affected? If so, when the brain case is not properly grown and expanded, not only the brain but the mind also has not developed as Nature intended it should.

Does this mean then that abnormal and inefficient children are growing into delinquent adults? Yes, even worse, for some students of psychology tell us that some of them are developing into criminals as well. A study of the faces of hundreds of thousands of criminals, feeble-minded, delinquent, abnormal and otherwise inefficient people prove that undeveloped and malformed jaws are one cause of many such pitiful cases.

To be sure, we must remember that we have the much talked of "heredity" and "environment" to reckon with. But after all is said, has it not been proved that when science has baffled the habits of Nature in heredity, and sociology has changed the environment, there is so remarkable a change in the growth and life of a child that it appears to be little less than a miracle?

As an example of what science can do in improving the mentality of a child by removing irritating causes near the base of the brain, I refer you to the many cases of adenoids which have been successfully removed. True it is that in a majority of cases, the inefficient child who *was* dull and listless at school became bright, active and otherwise normal after the adenoids had been removed.

We do not claim that undeveloped faces and jaws are the sole cause of inefficiency and lowered mentality. Are they not, however, probably the cause of a sufficient proportion of such cases that it will more than repay the orthodontist for his time and effort in making a somewhat careful study of psychology in connection with his practical work?

Dr. A. C. Fones of Bridgeport, Connecticut, has said, "Unequal brain development means an abnormal brain, and an abnormal brain means abnormal thought and action." Through the handicapping influences of undeveloped brain cases there follows the undeveloped mind. Because of this many children who *might* be leaders in politics, business, industry, science, art and religion are denied the opportunity of normal development. Dr. Higgason in *Oral Hygiene,* July, 1916, says, "A child is a bundle of possibilities and often, wrapped therein are the undeveloped talents of a genius."

Because of all these facts we rejoice that some research work is being done

in the study of the ductless glands of the body; for it may be that the study of the pituitary bodies occupying a small space at the base of the brain case, will bring to us a much-needed remedy. Although it is difficult to find much information in print on the function of these small bodies, yet the little we do read arouses our interest and increases our desire for a wider knowledge.

In the August, 1917, number of *Oral Hygiene* an article by Dr. W. Claude Adams of Portland, Oregon, gives us a thought or two on the mysterious function of the ductless glands. He says, "If anything happens to one it affects the others; and the loss or degeneracy of any one of the ductless glands robs the body of a necessary function." Another time he says, "The thyroid and pituitary are antagonistic, the thyroid diminishes, and the pituitary augments blood pressure."

He quotes Dr. Josefson of Stockholm and others who maintain that dentition and the growth of hair are controlled by these glands. Some claim that the growth of the whole bony framework of the body is governed, and the size of the individual is determined by the pituitary bodies. Dr. Woods Hutchison has said, "We are such stuff as ductless glands are made of."

Have you not read the opinion of some scientists who claim that the pituitary body is the king on the throne, the very seat of life, controlling the mind and nervous system?

Should this be true, would it not be an easy matter to conclude that a lack of proper development about the base of the brain would interrupt the normal growth of this most important part of the human body? If restricted upper arches, restricted nasal cavities, adenoids, etc. (which things are usually found together) so retard the proper development of the lower brain, would this not interfere with the proper function of the pituitary bodies and thus limit the growth of mind and body?

Could it be proved to the public for a certainty that expanding the upper arch and relieving the pressure on the lower brain and enlarging the nasal cavities would restore the proper physical and mental development of the brain, there would be no doubt but that several times as many orthodontists would be required as can be found in any community.

What a pity that ignorance has so blinded the eyes of the public as well as of the dental profession that we can not see that physical defects of the head and face are perhaps the leading cause of a child's state of mentality, and grade of intelligence.

Terman, the psychologist, in his book, "The Measure of Intelligence," says, "With the exception of moral character there is nothing as significant for a child's future as his grade of intelligence. Even health itself is likely to have less influence in determining success in life. Schools, railroads, factories, and the largest commercial concerns may be successfully managed by persons who are physically weak or even sickly. One who has a high grade of intelligence constantly measures opportunities against his own strength or weakness, and adjusts himself to conditions by following those leads which promise most toward the realization of his individual possibilities." Hence, from this we

infer that since physically weak persons may possess a high degree of mentality and win success, the opposite may be true that persons of lowered mentality may fail in attaining it, even though blessed with excellent health. And so we should no longer blame mentally defective workmen for their industrial inefficiency or punish weak-minded children because of their inability to learn. Rather, we should see to it that children of whatever station in life be given every opportunity to grow and develop mentally as well as physically.

Dr. Terman, who has studied the grade of intelligence of school children for some years, says that from one-third to one-half of the children of our public schools fail to progress through the grades at the expected rate; and from ten to fifteen per cent of them are retarded two years or more. Then, too, remember there is an army of feeble-minded children who are not able to attend school, and as many more adults, some of whom become idiotic and criminal. Might it not have been that a certain proportion of these could have been made mentally normal, had the orthodontist been permitted to relieve the disturbing influences at the proper time in life?

As to the close connection between mentality and morality, Dr. Terman says, "Without exception, every study which has been made of the intelligence level of delinquents has furnished convincing testimony as to the close relation existing between mental weakness and moral abnormality. Some of these findings are as follows:

"Of a hundred girls tested at the Ohio Reformatory, 36 per cent were feeble-minded.

"Of a hundred Juvenile Court cases chosen at random in Newark, N. J., nearly 50 per cent were classified as feeble-minded.

"The test of a hundred prisoners at the Massachusetts State Reformatory showed that 25 per cent were feeble-minded.

"Of 1,186 girls tested at the State Industrial School for Girls at Lancaster, Pa., 28 per cent were found to have abnormal intelligence.

"At the State Reformatory, Jeffersonville, Ind., in an unusually thorough psychologic study of 1,000 young adult prisoners, it was found the proportion of feeble-mindedness was not far from 50 per cent.

"But it is needless to multiply statistics. Those given are but samples. Tests are at present being made in most of the progressive prisons, reform schools, and juvenile courts throughout the country, and there is no investigator who denies the fearful role played by mental deficiency in the production of vice, crime and delinquency.

"To be sure, all criminals are not feeble-minded, but all feeble-minded are at least potential criminals. Moral judgment, like business judgment, or any other kind of higher thought process, is a function of intelligence. Morality can not flower and fruit if intelligence remains infantile."

It is said that the cost of vice and crime in the United States is not less than $500,000,000 per year. This is the cost in cold cash. The cost to society, including the loss of precious lives, as the result of vice and crime can never be estimated. Can we not indulge with confidence in a prophetic vision of the

future when the orthodontist will be called on to save his share of lives, not only from physical wreck and ruin, but from mental and moral degeneracy?

Another problem presents itself to the orthodontist. It is the problem of the education of the public. Could the parents of every child afflicted with malocclusion, realize the effect those conditions must have on his mentality, health and general development, many of them would at once seek the remedy if they knew it was available. Should the orthodontist undertake the education of the hundred million population of the United States he will find the task overwhelming and impossible. Impossible, not only because of the immensity of the task, but also because of his timidity in teaching a gospel which "might make him appear as a salesman recommending his wares."

And so, as in algebra, it is sometimes necessary to introduce into an equation an unknown quantity in order to bring the correct results, just so the orthodontists need another factor to assist them in the education and awakening of the general public.

It is here that I wish to introduce to you the most efficient ally of the orthodontist, the dental hygienist, who may be that needed factor. What she has accomplished in the mouth hygiene movement the past three years may be taken as an index of what she may be capable of doing to advance the cause of orthodontia.

As all may not be familiar with the work of the hygienist, I will say that her one year's training instructs her in present mouth conditions, especially among children, and her efforts are mainly along the line of preventive dentistry. Her careful examination of the mouths of school children brings to light the cases needing regulation. A tactful talk with the child in regard to his crooked teeth, a talk with the teacher, who is usually willing and ready to lend her aid, and a subsequent call on the parents, to whom conditions and remedies are explained, and the hygienist has made a fair start toward bringing the afflicted child to the orthodontist. She keeps in mind these cases which should be under treatment, and as far as tact and propriety will permit, follows up the first visit with other efforts to induce the parents to have their child's case placed in the hands of an orthodontist.

When this is accomplished she may, when necessary, accompany the child to the office or clinic for treatment, and see that the child and parent understand their part in the undertaking.

Thus she becomes a very useful assistant to the orthodontist.

But aside from her individual oversight of each case, she will often have an opportunity to lecture to mothers and teachers, to whom she can present the symptoms and evils of malocclusion as well as the preventive measures. The broad field awaiting her efforts along the line of preventive work can scarcely be comprehended and its great need can not be doubted.

In the June number of *Oral Hygiene,* 1918, is an article on "Irregular Teeth" which is an extract from a lecture to parents given at the Free Public Health Lecture Course of the Forsyth Dental Infirmary, Boston, by Dr. Frank Delabarre. Among other things he said, "Civilization seems to be largely respon-

sible for the prevalent condition of irregular teeth, as it is rare among primitive peoples.

"In America today, probably 75 per cent of the adults have irregular teeth. The observations of specialists reveal a startling contrast. They find that a very large percentage of children who have reached the age of two and a half or three years, when the temporary teeth have all taken their place, have normal development of the face and jaws. There are no figures to state this percentage accurately, but it is safe to say that it is over 80 per cent, and perhaps over 90 per cent. Compare this with the 75 per cent of irregularities among adults, and it is seen at once that there is an age somewhere between, when irregularity starts in a large majority of individuals."

Some one has said,, "Ninety-five per cent of children lose their first teeth before Nature intended they should."

Hence there is no doubt but that dental decay in young children is responsible for a certain proportion of the cases of malocclusion.

Many opportunities will present themselves to the dental hygienist to instruct the public and banish the ignorance of these matters so prevalent today among the masses. The scope of her work has progressed until it has reached the proportion of (1) An assistant to a dentist or orthodontist, (2) A social worker, (3) A teacher's helper, and (4) The school child's friend.

Her purpose is to teach preventive dentistry, and preventive orthodontia; to educate the rising generation, parents and general public in mouth hygiene, and to bring together the little patient needing dental attention and the dentist, as well as the child needing orthodontic treatment and the orthodontist. The useful work of the dental hygienist proves to the dental profession that she has come into the professional circle to stay. I urge all orthodontists and dentists to encourage in every way possible the establishing of schools for dental hygienists in every large city. Her work in the past has accomplished much to promote the success of mouth hygiene, where she has been permitted by the state dental laws to practice. Although the new profession of dental hygienist, bestowing the degree of D. H., may have been an experiment, it has proved to be a successful one which has brought astonishing results.

While the revised laws of five states, viz., Massachusetts, Connecticut, New York, Maine and Iowa, permit the hygienist to clean and polish teeth, yet her greatest aid to the dental profession will be in educating the public to the need of the dentist and orthodontist.

When this is appreciated by the dental profession, the dental laws of other states will doubtless be so amended as to allow the hygienist to practice; and there will be a demand in the schools throughout the land for her services as a teacher of hygiene of the mouth as well as an assistant at the clinics. May this day soon come.

DEPARTMENT OF
ORAL SURGERY AND SURGICAL ORTHODONTIA

Under Editorial Supervision of

M. N. FEDERSPIEL, B.Sc., D.D.S., M.D., F.A.C.S., MILWAUKEE, WIS.

Professor of Oral Surgery in Marquette University

Recurrent Dislocation of the Lower Jaw. J. B. Blake. Annals of Surgery, 1918, lxviii, 141.

Dr. J. B. Blake reports an interesting case of recurrent dislocation of the lower jaw as follows:

The patient, a man of twenty-seven, was rather a pugnacious individual; he had frequent and violent physical contact with his fellow-men; during these gentle passages at arms he suffered the dislocation of the jaw many times.

As a result, he gradually became unable to laugh without dislocation or yawn without the same inconvenient occurrence. He could not sleep without imminent danger of waking to find his mouth wide open and his chin fixed upon his chest, being compelled to seek immediate surgical aid. His dislocated jaw was reduced at the Boston City Hospital Relief Station, near which he lodged, at least forty or fifty times and as often as more than once in the same night. He had tried bandages, but of no avail, possibly because he did not wear them long enough for a fair trial; operation was the only form of treatment that offered hope of success. A careful examination proved to impress the operator with the disadvantages of attacking the joint itself in a condition so marked as this, and remembering the familiar method by which the lower jaw bone is held to the skull in the mounted skeleton (a spring tacked above to the temporal bone and below to the coronoid process), he concluded that something of this nature might be effective; that is, that the coronoid process be bridled to the bony skull, and the zygomatic arch suggested itself, at a glance, as the obvious anchorage.

The patient agreed to the operation, understanding that he must assume some chance, since there seemed to be no precedent for the procedure. An incision was made along the lower border of the zygomatic arch and the fibers of the masseter separated from it. This incision was well above Stenson's duct and parallel to the facial nerve fibers. With some difficulty, the coronoid process was reached; it was much deeper than had been anticipated, and the operator was not able to do what he had originally planned; this was to drill through the tip of the coronoid, thread a piece of wire through the hole, and

lace this over the zygoma. He looped the silver wire, first over the zygoma, and then brought it down and carried it through the insertion of the temporal muscle and the periosteum on the front of the coronoid, twisted the ends together, flattened it, and closed the wound without drainage. The wire loop was long enough to allow the jaw to open for two cm. or one inch between the incisors. The masseter was carefully sutured to its origin; bandages held the jaw closed; and the wound healed by first intention. The jaw was immobilized three weeks. For some time the patient would not open teeth more than one cm., afraid that it would slip; but he gradually gained confidence and a wider range of motion returned. A year after the operation, the jaw became normal and reliable in every way. The x-ray shows that the wire has twisted from its original position, but it does not cause any discomfort and gives a mental sense of security to its somewhat excitable and erratic possessor.

DEPARTMENT OF DENTAL AND ORAL RADIOGRAPHY

Under the Editorial Supervision of

JAMES DAVID MCCOY, D.D.S., Los Angeles—ROBERT H. IVY, M.D., D.D.S., Milwaukee

B. FRANK GRAY, D.D.S., San Francisco—C O. SIMPSON, M.D., D.D.S., St. Louis.

It is the object of this department to publish each month original articles on dental and oral radiography. The editors earnestly request the cooperation of the profession and will gladly consider for publication papers on this subject of interest to the dental profession. Articles with illustrations especially solicited.

A CASE OF "IMPACTIONS" OF INTEREST TO THE ORTHODONTIST, WITH THE TREATMENT AND RESULT OBTAINED

BY JAMES DAVID MCCOY, D.D.S., LOS ANGELES, CAL.

Professor of Orthodontia and Radiography, College of Dentistry, University of Southern California

ON more than one occasion I have been responsible for the assertion that an x-ray examination should constitute a regular part of the routine in the examination of our cases. The truth of this statement is brought directly home in a case in which I failed to practice what I have so vigorously preached.

The case under discussion was placed under treatment in May, 1912. The patient was a boy twelve years of age who had a case of Class II, Division 2, without any unusual complications. Both arches were somewhat arrested in development, but all of the permanent teeth, anterior to, and including, the first permanent molars, were present, although the left upper second bicuspid was inside the arch and had only erupted to a point where one of the cusps showed through the gingival tissue. Owing to the fact that all of these teeth were accounted for, I did not deem it necessary to make radiograms as fullness of the structure posterior to the first permanent molars seemed to indicate that the second molars were about to erupt.

Treatment of the case was carried on without mishap and the teeth present in the mouth placed in their normal relations and retaining appliances were adjusted.

At the end of a year the right upper and lower second molars erupted, but there was no sign on those of the left side. Most of the retaining appliances were removed and the patient went away to school and was not seen for quite a long period.

In July, 1918, the patient again called for consultation and an examina-

Fig. 1.

Fig. 2.

tion of the mouth showed that *the second molars on the left side had not yet put in their appearance.* Inasmuch as these teeth were about six years late, a radiogram was made which revealed the condition shown in Figs. 1 and 2.

The question now arose as to the best method of handling this unusual situation. After consultation with an exodontist, it was decided best *to remove the upper first molar and the lower third molar.* This was done by Dr. Frank L. Warren.

On December 1, 1918, another radiogram was made which is shown as Fig. 3. The upper second molar has come downward and forward and is assuming

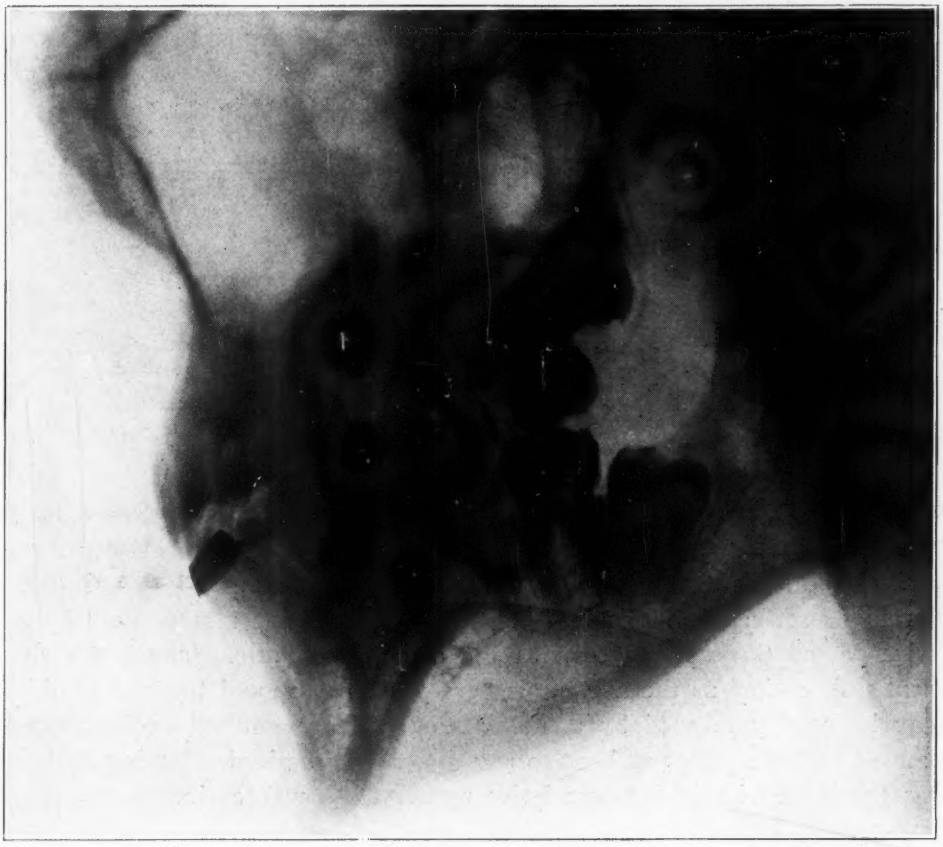


Fig. 3.

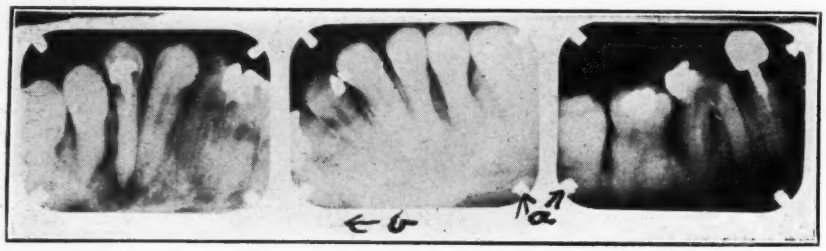
a very good relationship with the lower first molar. The lower second molar is about to erupt and the upper third molar has ample space to come down and take the place of the second molar which has moved forward.

The fact that the upper first molar was extracted will undoubtedly appear to many as being unwise. However, we were guided in this, first by the fact that this tooth contained a rather large filling, secondly, because we wished to save the patient all we could in the way of shock and laceration to the tissues, and as the upper second molar was entirely unerupted, we chose this method as being the best suited to this individual case.

A METHOD OF MOUNTING DENTAL FILMS*

By E. B. Knerr, M.D., Kansas City, Mo.

A METHOD of mounting dental films which I find to be entirely successful is shown in the accompanying photograph. At each corner of the film negative a small portion of the emulsion side is scraped away by a sharp knife or chisel, as shown at (a). To each of these corners so prepared a minute drop of celluloid cement is then applied and the film immediately thereby cemented to the *smooth* surface of a strip of frosted celluloid backing, pressing the corners down for a few seconds by the fingers. The warm fingers aid in setting the cement and binding the film to the backing. The celluloid cement is pre-



(a) Emulsion removed at corners of films.
(b) Frosted celluloid backing.

pared by dissolving discarded films cut up into small pieces in acetone and diluting to the consistency of thin syrup by adding more acetone. Filter through cotton and add about one-tenth volume of 98 per cent alcohol to act as a retarder to its setting. The cement may be applied to the film corners by a bit of wire passed through the cork of the containing bottle. The bottle should be kept well corked as the acetone is very volatile. Should the cement thicken it may be readily thinned by adding acetone. The celluloid backing may be purchased in large sheets and cut to any dimensions desired, allowing such margin as may be advisable for descriptive matter to be written in.

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EDITORIALS

Dr. Leonard E. Stanley

DOCTOR LEONARD E. STANLEY died of anemia in Ottawa, Ontario, on Tuesday, December 10, 1918.

Dr. Stanley was born in Greeley, Ontario, in 1877. He obtained his early education in Greeley and Metcalfe, afterwards attending the Kemptville High School where he matriculated for dentistry. In 1900 he entered the Royal College of Dental Surgeons, Toronto, and was graduated in 1904. His preceptor was Dr. Alex Armstrong, of Ottawa, now Lieut.-Col. Armstrong, head of the Canadian Army Dental Corps in England. He was a clever student and in his senior year was demonstrator to the freshman class in operative dentistry. Immediately after graduation he began practice for himself in the city of Ottawa. In 1907 Dr. Samuel S. Davidson, now the oldest practicing dentist in Ottawa, asked Dr. Stanley to become associated with him. They worked

as associates until Dr. Stanley's illness last May. In the summer of 1915, Dr. Stanley attended the Dewey School of Orthodontia and was graduated from that institution. He was a member of the Canadian Dental Association, and at the Montreal meeting in 1916, opened the discussion on Dr. W. H. Logan's paper on Conductive Anesthesia. His illness prevented him attending the Canadian Dental Association and National Dental Association meeting in Chicago last August. Up to a short time previous to this meeting he expected to recuperate sufficiently to attend, and he regretted keenly his inability to do so. He was a member of the Ontario Dental Society and attended the 1918 meeting last April. He was president of the Eastern Ontario Dental Society in 1917. Dr. Stanley was a member of Rivermead Golf Club and an enthusiastic golfer. He was also a member of the Kiwanis Club of Ottawa. He belonged to Doric Lodge, A. F. and A. M., and to the Lodge of Perfection and Rose Croix Chapter, Scottish Rite. At the time of his death he was Master of Doric Lodge. Dr. Stanley was an Anglican and attended St. George's Church.

He is survived by his widow and two little girls, Kathleen and Lenore.

Thus is chronicled briefly the principal facts concerning the life and death of Dr. Stanley, but to give these conventional items without paying a tribute to our lamented friend would indeed be failing to do what was most dominant in the writer's mind.

Dr. Stanley was a man of strict integrity; honest and truthful, unselfish, genial; a good friend and a Christian gentleman. He was a successful practitioner and a very pleasant relationship existed between him and his patients. He was still a young man, only forty-one years old and had so much of future possibility before him that his taking away is a distinct loss. He was one of the most progressive men in the dental profession and his ideals could not help but raise the status of our profession. He was never neutral on a subject for the sake of policy, yet possessed the quality of being able to differ with one most emphatically and still hold one as a friend. He had a sunny, cheery, optimistic nature, one whose cheer helps to relieve the stress and strain of our busy everyday life. The chief loss will fall on his immediate family and at this time when the shadow of their bereavement falls so heavily upon them, their chief solace must come from the fact that he was a devoted husband and an affectionate father.

"I can not say, and will not say
That he is dead. He is just away:
With a cheery smile, and a wave of the hand,
He has wandered into an unknown land.
And left us dreaming how very fair
It needs must be, since he lingers there.
I think of him still as the same. I say
He is not dead, he is just away."

—*S. W. B.*

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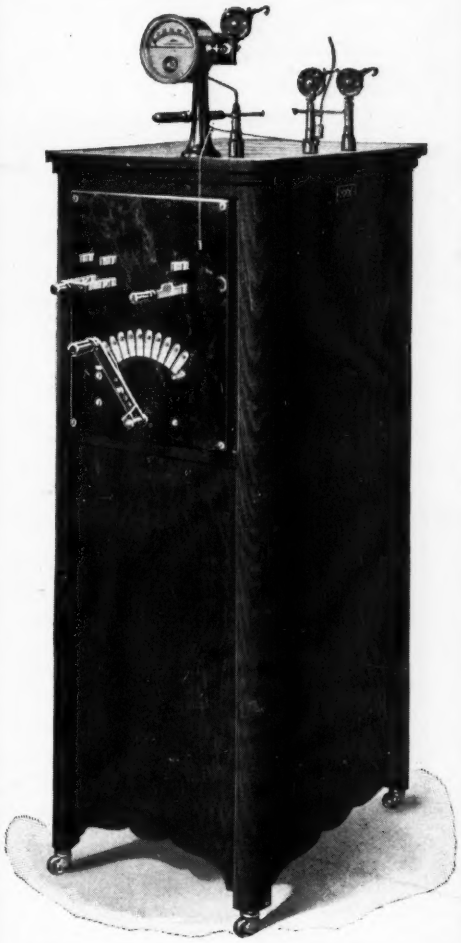

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